

09/938,415

-2-

PATENTAmendments to the Specification:

Please add the following new paragraph after the paragraph ending on line 3 of page 4:

--Fig. 5 is a side schematic view of an optical metrology instrument including an elongated aperture in accordance with the present invention.--

Please add the following new paragraph after the paragraph ending on line 29 of page 4:

--Fig. 5 shows an elongated aperture 504 being used in an optical metrology instrument similar to that shown in Fig. 1. Reference numbers are carried over from Figure 1 where appropriate. A light source 101 emits a light beam 502 having a particular shape in cross-section. The light beam is transmitted through a beam splitter 102, and is focused by an objective lens 103 onto a small focus spot 104 on a grating sample 105. Light reflected from the grating sample is redirected by the beam splitter 102 toward an optical detector 106. Reflectivity data can be collected over a range of wavelengths to determine parameters such as line width and thickness. An elliptical elongated aperture 504 is used in this embodiment, positioned along the illumination path of the light beam 502. The elongated aperture functions to shape the beam, as shown in the cross-section 500 of Figure 5. Cross-section 500 shows the elongated shape of the aperture 504 relative to a shape of the light beam 502 emitted from the source 101. After passing through the aperture 504, the transmitted portion of the beam also will have an elongated shape in cross-section. The transmitted portion of the beam then can be focused on the grating sample 105 by the objective lens 103 as a small focus spot 104 having an elongated shape, similar to that of the elongated aperture. As shown and described with respect to Figure 3, the elongated spot can extend over many grating lines, but can stay confined within the grating region.--